WHAT IS CLAIMED IS:

1. A thin film magnetic head comprising:

a lower core layer comprising a magnetic material;

an upper core layer comprising a magnetic material, a base of the upper core layer being magnetically coupled to the lower core layer, a tip of the upper core layer facing the lower core layer with a nonmagnetic gap layer therebetween at a section exposed to the air bearing surface;

a coil layer, for inducing a recording magnetic field in the lower core layer and the upper core layer, formed so as to go around the base of the upper core layer; and

a planarizing layer formed in the periphery of the lower core layer, excluding the section exposed to the air bearing surface, so that the surface of the planarizing layer is level with the surface of the lower core layer, the coil layer being formed over the lower core layer and the planarizing layer.

2. A thin film magnetic head according to Claim 1, wherein the back end of the lower core layer extends to the position in which the base of the upper core layer is magnetically coupled to the lower core layer, and the planarizing layer is formed at the rear of the back end of

the lower core layer.

3. A thin film magnetic head according to Claim 1, further comprising a lower shielding layer, a lower gap layer, a magnetoresistive element comprising a multilayer film exhibiting magnetoresistance and an electrode layer for applying a sensing current to the multilayer film, and an upper gap layer, deposited in that order from the bottom,

wherein the lower core layer is formed thereon, and the peripheral region, excluding the section exposed to the ABS of each layer from the lower shielding layer to the lower core layer, is filled with the planarizing layer.

4. A thin film magnetic head according to Claim 3, further comprising a first coil extraction layer simultaneously formed with a main electrode layer, the main electrode layer overlapping the electrode layer constituting the magnetoresistive element and formed at the rear of the electrode layer, and a second coil extraction layer comprising the same material as that for the lower core layer and simultaneously formed with the lower core layer,

wherein the second coil extraction layer is connected onto the first coil extraction layer, and a coil center of the coil layer is connected onto the second coil extraction layer.

5. A thin film magnetic head according to Claim 3, further comprising a first coil extraction layer simultaneously formed with a main electrode layer, the main electrode layer overlapping the electrode layer constituting the magnetoresistive element and formed at the rear of the electrode layer, and a third coil extraction layer comprising the same material as that for the lower core layer and simultaneously formed with the lower core layer,

wherein the third coil extraction layer is connected onto the first coil extraction layer, and a coil lead layer is formed on the third coil extraction layer.

6. A method of producing a thin film magnetic head comprising the steps of:

depositing a lower shielding layer, a lower gap layer, a magnetoresistive element, an upper gap layer, and a lower core layer in that order on a substrate;

forming a nonmagnetic insulating material layer in the periphery of the lower core layer and over the lower core layer;

forming a planarizing layer in the periphery of the lower core layer by removing the surface of the nonmagnetic insulating material layer to expose the lower core layer and by planarizing the exposed surface of the lower core layer

and the surface of the nonmagnetic insulating layer in the periphery thereof;

forming a gap layer over the lower core layer and the planarizing layer, and then forming a coil layer on the gap layer; and

forming an insulating layer on the coil layer, and then forming an upper core layer comprising a magnetic material on the insulating layer, a base of the upper core layer being magnetically coupled to the lower core layer, a tip of the upper core layer facing the lower core layer with the gap layer therebetween at the section exposed to the air bearing surface.

7. A method of producing a thin film magnetic head according to Claim 6, wherein the magnetoresistive element is formed by depositing a multilayer film exhibiting magnetoresistance and a pair of electrode layers connected to the multilayer film, and the method further comprises the steps of:

forming a first coil extraction layer simultaneously with main electrode layers, the main electrode layers overlapping the electrode layers and extending at the rear of the electrode layers;

connecting a second coil extraction layer and a third coil extraction layer comprising the same material as that

for the lower core layer onto the first coil extraction layer;

connecting a coil center onto the second coil extraction layer during the formation of the coil layer; and

connecting a coil lead layer onto the third coil extraction layer.